Abstract Title Page
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Title:
What Happens When Schools Become Magnet Schools?
A Longitudinal Study of Diversity and Achievement

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Abstract Body

Limit 4 pages single-spaced.

Background / Context:

Description of prior research and its intellectual context.

In recent decades, magnet schools have become a way for districts to provide school choice. Magnet schools are one of the many options provided to parents so that they can select a school to meet their children's educational needs and interests. Current estimates suggest that there are about 2,700 magnet schools across the United States, which is less than 3 percent of all public schools (Keaton 2012).[1] Federal support for magnet schools dates to the 1970s, when Congress authorized funds under the Elementary and Secondary Education Act (ESEA) to support school districts attempting to desegregate, including the establishment of magnet programs (Steel and Levine 1994). After a short gap in federal grants for magnet school implementation, Congress established the current Magnet School Assistance Program (MSAP) in 1984 (Steel and Levine 1994).

Despite the widespread presence of different types of magnet schools in the United States and growing interest in their outcomes, there is limited evidence about their effectiveness based on studies using rigorous designs.[2] Previous research has had drawbacks: 1) Most studies have not distinguished among different types of magnet programs, which could obscure their outcomes or impacts (i.e., schoolwide programs versus individual programs within a school; new programs versus mature ones; magnet elementary schools versus magnet high schools). 2) Some studies have combined the results for neighborhood students and students from outside the magnet neighborhood or focused solely on new students drawn by the magnet program. However, the hypotheses behind magnet conversion suggest that each group of students is affected differently by magnet conversion. 3) Some studies have been limited to individual districts, providing less confidence that the results apply to other locations. 4) Overall, the research has yielded mixed results. Although some studies have found positive effects for magnet programs, others have found negative effects or no effect.

Purpose / Objective / Research Question / Focus of Study:

Description of the focus of the research.

This study examined 21 MSAP-supported elementary schools from around the nation to see how their student body composition and academic achievement changed over time. The group of schools contained 17 that converted to become what might be called "traditional" magnet schools and another 4 that converted to become "destination" magnet schools.

Traditional Magnet Schools: Typically begin as lower performing schools serving higher proportions of students from low-income households or minority racial/ethnic groups than their districts; they are expected to recruit students who are higher achieving and more economically advantaged than the neighborhood students, or more likely to help the school achieve racial/ethnic diversity.

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[1] The number of magnet schools reported in Keaton (2012) comes from the Common Core of Data (CCD), which reports information from states that identifies which schools are magnet schools.

[2] A thorough review of the literature on magnet schools and achievement can be found in Christenson et al. (2004), which reviews 11 studies of magnet schools and achievement. A review by Ballou (2009) provides more recent evidence from eight studies, five of which use an evaluation methodology that is considered rigorous.

Destination Magnet Schools: Typically high-performing schools serving higher proportions of economically advantaged or nonminority students; they are converted to magnets to serve as a destination for students from outside the neighborhood, who frequently attend struggling schools, are lower achieving, more economically disadvantaged, and more likely to be from minority racial/ethnic groups than are the neighborhood students.

This study addressed some of the limitations of the previous research. It separately describes the outcomes for schools following the destination approach and schools following the traditional approach. It focuses on neighborhood elementary schools that convert to whole-school magnets. It separately describes what happens to the schools overall as well as the two groups of students that they serve (neighborhood students and students from outside the magnet neighborhood) in terms of diversity and achievement.

Setting:

Description of the research location.

This study includes 21 magnet schools in 11 districts representing all four U.S. regions. Study districts, like MSAP districts overall, were larger, were more urban, and served a higher share of minority students than districts nationwide. Study districts were, however, similar to all districts nationwide in proportion of students who were economically disadvantaged (please insert figure 1, 2, and 3).

Population / Participants / Subjects:

Description of the participants in the study: who, how many, key features, or characteristics.

Districts included in the study contained magnet school conversions funded either under the 2004 or 2007 funding cohorts. All schools in the districts were included in the analysis. (Please insert table 1 here.) Typically two years of data before conversion and four years after conversion were analyzed. The analysis was limited to elementary grades that were tested by their state assessment. (Please insert table 2 here.) The final dataset used in the analysis contained one record for each student for each year during the study period that the student attended a school in the study district in the grades analyzed—about 1,500,000 student records in all. For the achievement analysis, years were measured as the time between each annual test administration date and the next (i.e., between the time points when achievement outcomes were measured) rather than based on the start and end of the school year. These analyses were limited to those student records that contained the relevant achievement score or gain. (Please insert table 3 here.)

Intervention / Program / Practice:

Description of the intervention, program, or practice, including details of administration and duration.

The MSAP program provides support for various types of magnet programs. This study focused on one type: new, elementary, schoolwide conversion magnet schools. The funding of magnet conversion under MSAP has three main goals: **1) Promoting Diversity.** MSAP funds are intended to improve diversity by changing the mix of students attending schools receiving MSAP support. **2) Enhancing Achievement.** All MSAP magnet schools are expected to undertake curricular and instructional reforms that substantially bolster students' academic achievement and career, technological, and professional skills. **3) Expanding Choice.** MSAP grantee districts were to focus on expanding public school choice to students who attend low-performing schools (Office of Innovation and Improvement 2004).

The official MSAP grant period is three school years: 2004–05 through 2006–07 for the 2004 funding cycle and 2007–08 through 2009–10 for the 2007 funding cycle.

Research Design:
Description of the research design.

To describe change in magnet schools from before to after conversion, the annual school-level means of outcomes (concentration of minority students, concentration of economically disadvantaged students, ELA achievement, and math achievement) were compared to the annual means of outcomes in their districts (including all public elementary schools in the district) before and after conversion.

To assess the association of change in outcomes with conversion itself, this study utilized a comparative interrupted times series (CITS) design: conversion schools were compared to the other regular public schools (non-charter and non-magnet elementary public schools) that did not convert, before and after conversion. These other regular public schools provided a counterfactual against which changes in the conversion schools were compared using the model.

For analysis of diversity outcomes, the CITS model used annual school-level data. The dependent variable was the absolute value of the difference between a school's percentage (minority or economically disadvantages, analyzed separately) and its district's percentage. The model included year fixed effects and an indicator for schools that had converted (= 1 for conversion magnets in post-conversion years; =0 for conversion magnets in pre-conversion years and other traditional public schools in all years). This model was estimated separately for each district.

For analysis of achievement gains, the CITS model was estimated using student-level data. This model had the one-year achievement gain (ELA and mathematics, analyzed separately) as the dependent variable. The independent variables included student demographics, grade fixed effects, and year fixed effects. The key independent variables were, first, a series of dosage variables, three for each school for whether the student was a neighborhood student, from outside the neighborhood, or unknown. These dosages were proportions measuring the amount of the test-to-test year that the student spent in each school as a resident, nonresident, or unknown state). The second key independent variable was the indicator for schools that converted. This entered solely as an interaction with the dosage variables. This model was only appropriate for analyzing the achievement of neighborhood students due to selection bias problems in analyzing outcomes for nonresident students. This model was estimated separately for each district.

For aggregating results across districts, the study used a random-effects meta-analysis of the district-specific estimates to produce overall study average estimates. The meta-analysis treated each district model as a separate study and obtains an overall coefficient based on coefficients from the separate studies.

Data Collection and Analysis:
Description of the methods for collecting and analyzing data.

This study relied on administrative data collected directly from the districts. District provide the research team with student-level data containing the information necessary for the study. Additional information on the context and details of implementation of the conversion were collected from interviews with district-wide MSAP directors and a survey of the principals in MSAP schools.

Findings / Results:
Description of the main findings with specific details.

Key findings on the schools using the two conversion approaches include:

- **When measured against district changes, both types of magnet schools experienced some changes in diversity in the expected direction.** Over the conversion period (i.e., from before to after conversion) the traditional magnet schools reduced the concentration of students from minority racial/ethnic backgrounds relative to their districts, but there was no change in the concentration of economically disadvantaged students. Conversely, destination magnet schools increased their concentration of economically disadvantaged students relative to their districts, but had no change in the concentration of racial/ethnic minority students relative to their districts. (Please insert figure 4, 5, 6, and 7 here.)
- **Achievement in the traditional magnet schools was higher after conversion, outpacing district changes in English language arts (ELA) but not in mathematics; achievement in destination magnet schools did not change, while their districts improved over the conversion period.** The changes in average student achievement could be due to increases (traditional magnet schools) or decreases (destination magnet schools) in learning by students who were in the schools both before and after conversion. But they could also be due to shifts in the types of students—higher achieving (traditional magnet schools) or lower achieving (destination magnet schools)—who came to the schools after conversion. (Please insert figures 8 and 9 here.)
- **This study did not find evidence from the meta-analysis of CITS results that magnet conversion itself played a role in the study schools' diversity or achievement, with the exception of the decline in the concentration of minority students in traditional magnet schools**. (Please insert figures 10, 11, 12, 13, 14, and 15 here.)
- **There was a significant amount of variation across individual district CITS results.**

Conclusions:
Description of conclusions, recommendations, and limitations based on findings.
This study found that schools were more diverse after conversion but the evidence that this was related to conversion was limited (only significant for the concentration of minority students in traditional magnet schools). Achievement was higher after conversion in traditional magnet schools. The CITS analysis suggests that this rise in achievement may have been due to other factors such as the changing student population rather than the magnet program or new peers as this analysis did not find evidence that magnet conversion itself was associated with a change in neighborhood student achievement gains. However, there was a significant amount of variation across individual district results which suggests that converting magnet schools or their contexts may be so different that an average look across them (even separately by traditional versus destination) may be less meaningful, or at least that it would be important to study a larger number of these schools in the future. Ideally, this variation in results would provide an opportunity to assess whether specific aspects of the magnet schools' implementation or context are related to better or worse outcomes. Unfortunately, there were too few converting schools in the study sample to draw even tentative hypotheses about what factors might contribute to that variation. Future research on magnet conversion should make such an assessment a priority.

Appendices

Not included in page count.

Appendix A. References

References are to be in APA version 6 format.

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Appendix B. Tables and Figures

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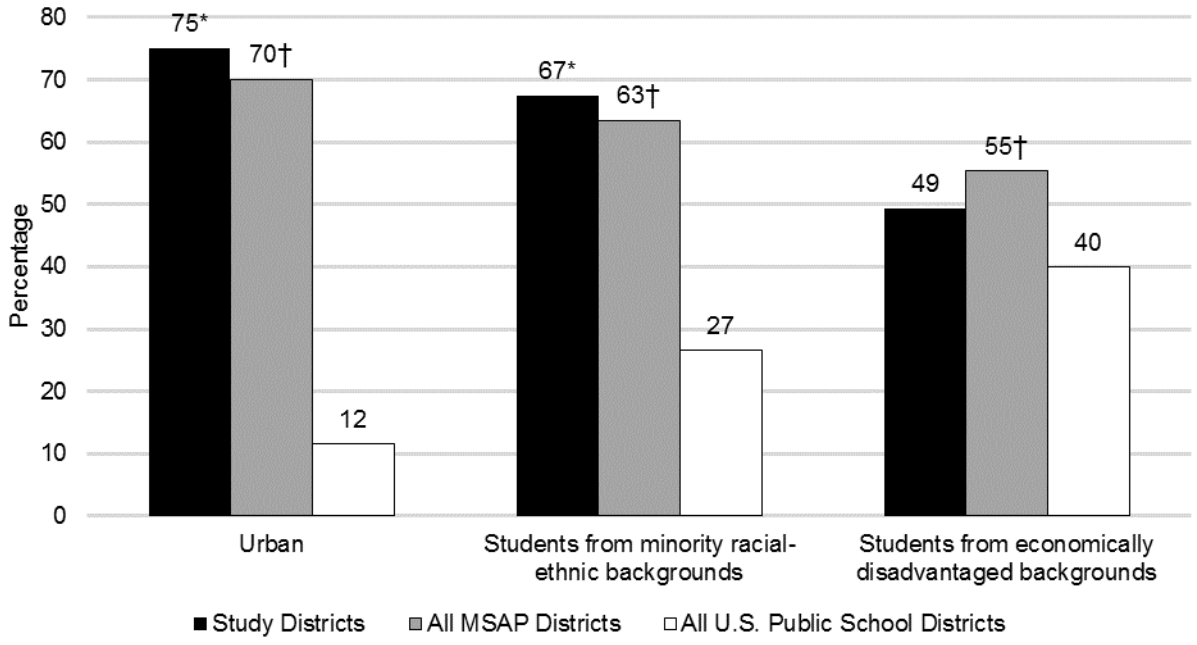
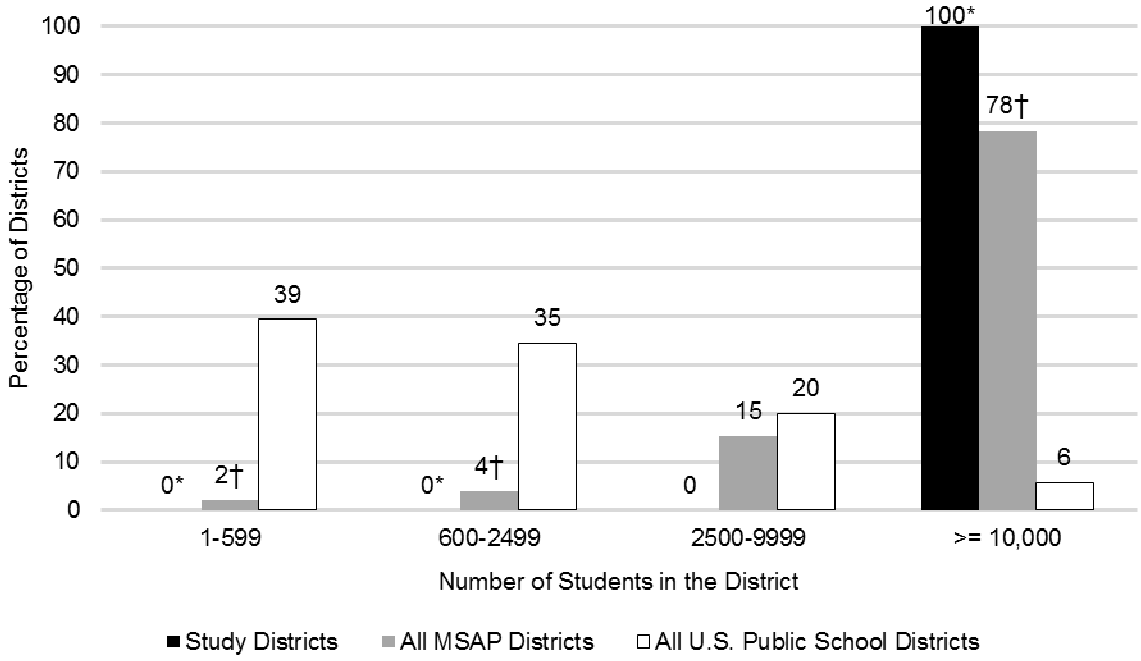
Figure 1. Proportion Urban and Average Proportion of Minority and Disadvantaged Students Served by Study Districts, All MSAP Districts, and All U.S. Public School Districts



NOTE: $N = 12$ for sample districts with District B represented twice in the data, once for the 2004 and once for the 2007 MSAP funding cycles. For all MSAP and all districts nationally, percentages in the exhibit are a weighted average of the 2003–04 and 2006–07 percentages, where the 2003–04 percentages were weighted 2/12 for the two 2004 funding cycle study districts represented in the exhibit, and the 2006–07 percentages were weighted 10/12 for the ten 2007 funding cycle districts represented in the exhibit. * All study districts significantly different from all U.S. public school districts ($p < .05$); + All study districts significantly different from all MSAP districts ($p < .05$); † All MSAP districts significantly different from all U.S. public school districts ($p < .05$).

SOURCE: Common Core of Data 2003–04 and 2006–07.

Figure 2. Distribution of Districts by Size of Study Districts, All MSAP Districts, and All U.S. Public School Districts

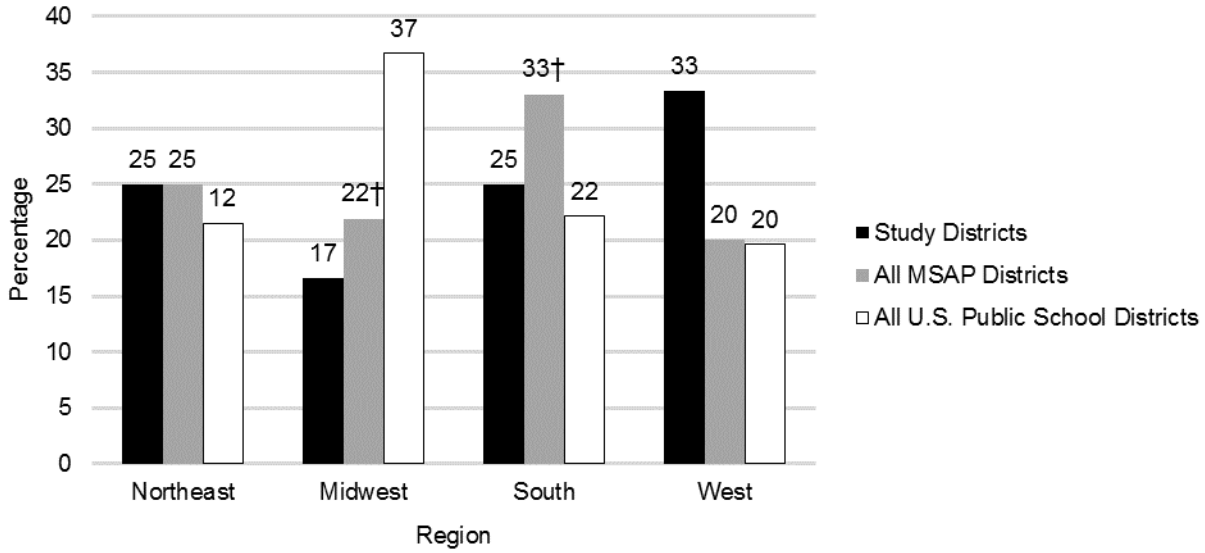


* All study districts significantly different from all U.S. public school districts ($p < .05$); † All MSAP districts significantly different from all U.S. public school districts ($p < .05$).

NOTE: $N = 12$ for sample districts with District B represented twice in the data, once for the 2004 and once for the 2007 MSAP funding cycles. For all MSAP districts and all districts nationally, distributions represent a weighted average of 2003–04 and 2006–07 distributions, where the 2003–04 numbers were weighted 2/12 for the two 2004 funding cycle study districts represented in the exhibit, and the 2006–07 numbers were weighted 10/12 for the ten 2007 funding cycle districts represented in the exhibit.

SOURCE: CCD 2003–04 and 2006–07.

Figure 3. Region of Study Districts, All MSAP Districts, and All U.S. Public School Districts



† All MSAP districts significantly different from all U.S. public school districts ($p < .05$).

NOTE: $N = 12$ for sample districts with District B represented twice in the data, once for each of the 2004 and 2007 MSAP funding cycles. For all MSAP districts and all districts nationally, the percentages in the exhibit are a weighted average of the 2003–04 and 2006–07 percentages, where the 2003–04 percentages were weighted 2/12 for the two 2004 funding cycle study districts represented in the exhibit, and the 2006–07 percentages were weighted 10/12 for the ten 2007 funding cycle districts represented in the exhibit.

SOURCE: Common Core of Data 2003–04 and 2006–07.

Table 1. MSAP Grant Years and Numbers of Public Elementary Schools Served by Study Districts

District	MSAP Grant Year	Study Magnet Schools	Neighborhood Public Schools
A	2004	1	169
B (2004)	2004	2	14
B (2007)	2007	2	14
C	2007	1	15
D	2007	3	78
E	2007	1	163
F	2007	3	15
G	2007	2	74
H	2007	1	22
I	2007	1	65
J	2007	2	91
K	2007	2	18
Total		21	724†

† Numbers of neighborhood public schools from District B were counted only once in this total.

NOTE: Two conversion magnet schools located in the same building that had been one regular neighborhood school prior to conversion are counted as one school in this table.

SOURCE: District administrative data.

Table 2. MSAP Grant Year, Grades, and Years Analyzed for Study Districts

District	MSAP Grant Year	Grades Analyzed	Years Analyzed	Number of Years Preconversion	Number of Years Postconversion	Number of Student Observations
A	2004	3–5	2002–03 to 2007–08	2	4*	450,224
B (2004)	2004	2–5	2002–03 to 2007–08	2	4*	44,867
B (2007)	2007	2–5	2002–03 to 2009–10	5	3	48,053
C	2007	2–4	2004–05 to 2010–11	3	4	11,507
D	2007	3–5	2005–06 to 2010–11	2	4	186,195
E	2007	3–5	2006–07 to 2010–11	1	4	164,521
F	2007	4–5	2006–07 to 2010–11	1	4	10,857
G	2007	3–5	2005–06 to 2010–11	2	4	134,549
H	2007	2–5	2005–06 to 2010–11	2	4	51,124
I	2007	3–5	2005–06 to 2010–11	2	4	150,048
J	2007	2–5	2005–06 to 2010–11	2	4	221,027
K	2007	3–5	2005–06 to 2010–11	2	4	42,776
Total†						1,470,881

† Total row includes numbers from District B (2007) but not District B (2004); * Study schools from the 2004 MSAP grant year for which data were also available for two additional years: the 2008–09 and 2009–10 school years. These extra years of data were included in statistical models that analyzed achievement to increase precision of parameter estimates for the covariates, but reported results for magnet conversion pertain only to the first four postconversion years.

SOURCE: District administrative data.

Table 3. Number of Student Observations, Observations With *z*-Scores, Observations With *z*-Score Gain for ELA and Mathematics

District	MSAP Funding Cycle	Study Sample				
		Number of Student Observations	Number of Observations With *z*-Score		Number of Observations With *z*-Score Gain	
			ELA	Mathematics	ELA	Mathematics
A	2004	450,224	305,404	305,553	260,035	260,215
B (2004)	2004	44,867	28,968	29,030	23,126	23,199
B (2007)	2007	48,053	31,160	31,235	25,076	25,163
C	2007	11,507	7,126	7,151	5,525	5,525
D	2007	186,195	123,101	123,261	102,723	102,937
E	2007	164,521	111,817	112,222	91,669	92,076
F	2007	10,857	9,637	9,637	8,822	8,822
G	2007	134,549	99,219	102,100	85,049	89,649
H	2007	51,124	41,002	40,998	32,616	32,594
I	2007	150,048	64,126	64,113	51,947	51,900
J	2007	221,027	130,314	130,164	104,098	103,884
K	2007	42,776	28,701	29,332	24,289	25,195
Total[a]		**1,470,881**	**951,607**	**955,766**	**791,849**	**797,960**

[a] Total row includes numbers from B (2007) but not B (2004).

SOURCE: District administrative data.

Figure 4. Concentration of Racial/Ethnic Minority Students in Traditional Magnet Schools (Average Across Schools)

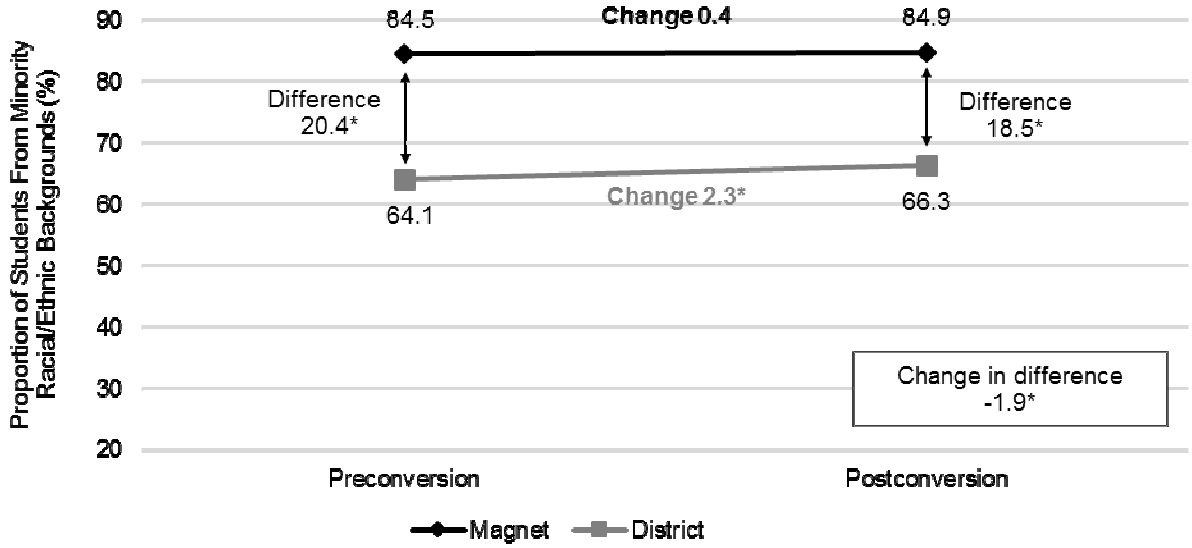


EXHIBIT READS: Before (pre-) conversion, the average proportion of minority students in the magnet schools (84.5 percent) was 20.4 percentage points higher than the proportion in their districts (64.1 percent). From pre- to post-conversion, there was no statistically significant change in the magnet schools' proportion (0.4 percentage points), while the proportion in their districts increased by 2.3 percentage points. As a result, after (post-) conversion, the magnet schools' average proportion (84.9 percent) was 18.5 percentage points higher than the proportion in their districts (66.3 percent)—a significant change in the difference between the magnet schools and their districts of -1.9 percentage points. This change represents a reduction in the concentration of minority students in the magnet schools relative to their districts.

NOTE: *N* = 17 schools in 10 districts. Results include all students: neighborhood students, students from outside the neighborhood, and students missing neighborhood status. District proportion is based on students in all schools in the district. Differences were calculated using unrounded numbers and may not equal differences calculated from numbers shown on the figure.

SOURCE: District administrative data.

Figure 5. Concentration of Economically Disadvantaged Students in Traditional Magnet Schools (Average Across Schools)

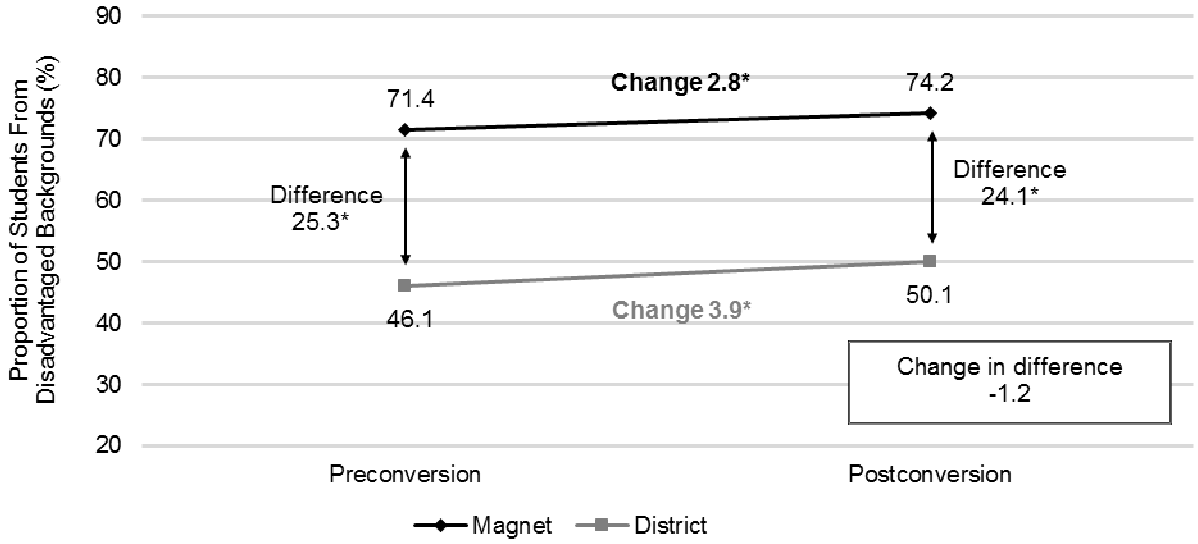


EXHIBIT READS: Before (pre-) conversion, the average proportion of economically disadvantaged students in the magnet schools (71.4 percent) was 25.3 percentage points higher than the proportion in their districts (46.1 percent). From pre- to post-conversion, the average proportion of disadvantaged students in the magnet schools and their districts increased by similar amounts (2.8 and 3.9 percentage points, respectively). As a result, after (post-) conversion, the magnet schools' average proportion (74.2 percent) was 24.1 percentage points higher than the proportion in their districts (50.1 percent)—a non-significant change in the difference between the magnet schools and their districts of -1.2 percentage points. While the magnet schools were 1.2 percentage points closer to their districts after conversion, this change is not statistically different from zero, and thus does not represent a reduction in the concentration of disadvantaged students in the magnet schools.

NOTE: *N* = 11 schools in seven districts. Results include all students: neighborhood students, students from outside the neighborhood, and students missing neighborhood status. District proportion is based on students in all schools in the district. Differences were calculated using unrounded numbers and may not equal differences calculated from numbers shown on the figure.

SOURCE: District administrative data.

Figure 6. Concentration of Racial/Ethnic Minority Students in the Destination Magnet Schools (Average Across Schools)

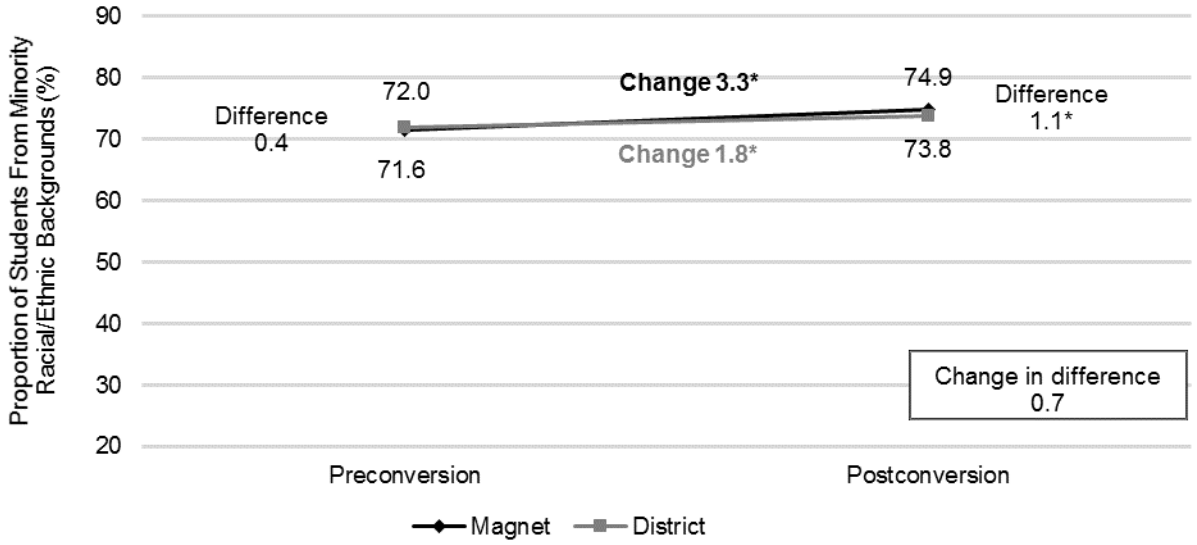


EXHIBIT READS: Before (pre-) conversion, the average proportion of minority students in the magnet schools (71.6 percent) was 0.4 percentage points lower than the proportion in their districts (72.0 percent). From pre- to post-conversion, there was a statistically significant increase in the magnet schools' proportion (3.3 percentage points) and in the proportion in their districts (1.8 percentage points). As a result, after (post-) conversion, the magnet schools' average proportion (74.9 percent) was significantly higher (1.1 percentage points) than the proportion in their districts (73.8 percent), but the change in the difference between the magnet schools and their districts (0.7 percentage points) was not significant.

NOTE: *N* = four schools in three districts. Results include all students: neighborhood students, students from outside the neighborhood, and students missing neighborhood status. District proportion is based on students in all schools in the district. Differences were calculated using unrounded numbers and may not equal differences calculated from numbers shown on the figure.

SOURCE: District administrative data.

Figure 7. Concentration of Economically Disadvantaged Students in the Destination Magnet Schools (Average Across Schools)

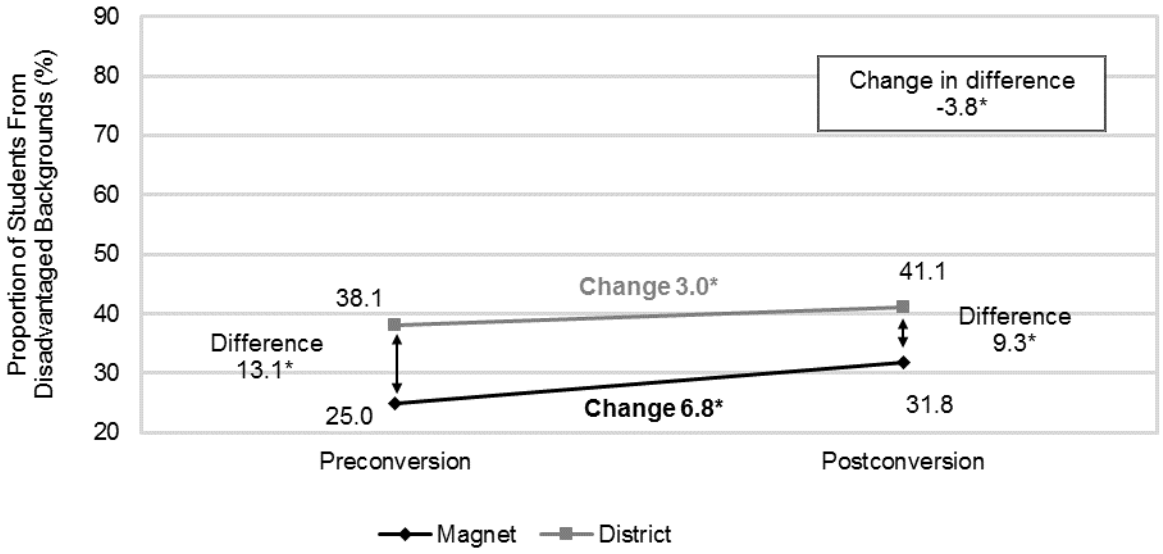


EXHIBIT READS: Before (pre-) conversion, the average proportion of economically disadvantaged students in the magnet schools (25.0 percent) was 13.1 percentage points lower than the proportion in their districts (38.1 percent). From pre- to post-conversion, the average proportion of disadvantaged students increased significantly in the magnet schools (6.8 percentage points) and their districts (3.0 percentage points). As a result, after (post-) conversion, the magnet schools' average proportion (31.8 percent) was 9.3 percentage points lower than the proportion in their districts (41.1 percent), which was a significant change in the difference between the magnet schools and their districts of -3.8 percentage points. This change represents a significant increase in the concentration of disadvantaged students in the magnet schools relative to their districts.

NOTE: *N* = four schools in three districts. Results include all students: neighborhood students, students from outside the neighborhood, and students missing neighborhood status. District proportion is based on students in all schools in the district. Differences were calculated using unrounded numbers and may not equal differences calculated from numbers shown on the figure.

SOURCE: District administrative data.

Figure 8. Achievement in Traditional Magnet Schools and Their Districts (Average Across Schools)

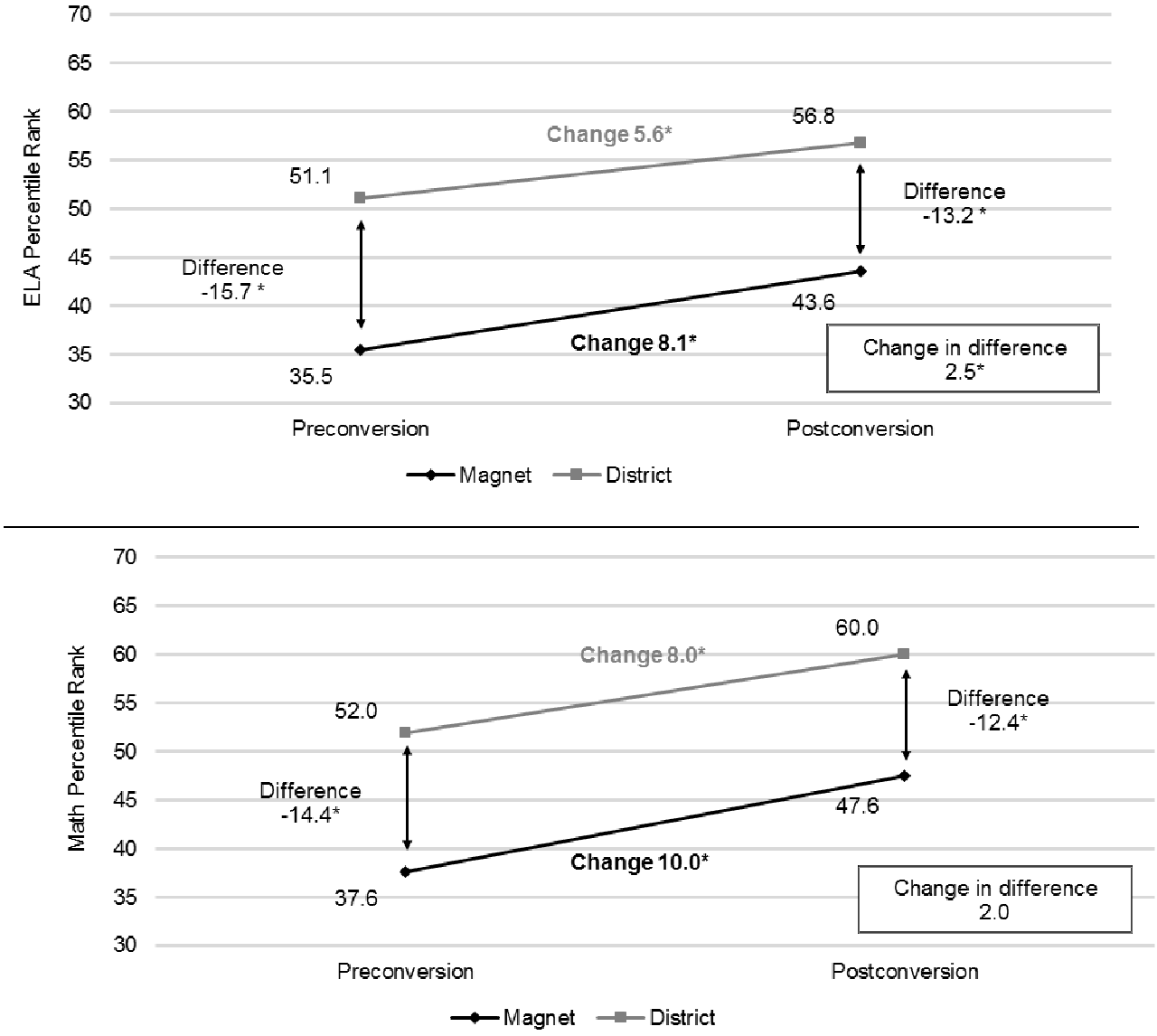


EXHIBIT READS: The average ELA achievement in the magnet schools increased by 8.1 percentile points from before (pre-) conversion (35.5 percentile) to after (post-) conversion (43.6 percentile). The average ELA achievement in their districts increased by 5.6 percentile points from pre-conversion (51.1 percentile) to post-conversion (56.8 percentile). Therefore, the magnet schools increased 2.5 percentile points more than their districts (an 8.1 percentile point increase in the magnet schools compared to a 5.7 percentile point increase in their districts)—a statistically significant change.

NOTE: *N* = 17 schools in 10 districts. Differences were calculated using unrounded numbers and may not equal differences calculated from numbers shown on the figure.

SOURCE: District administrative data.

Figure 9. Achievement in Destination Magnet Schools and Their Districts (Average Across Schools)

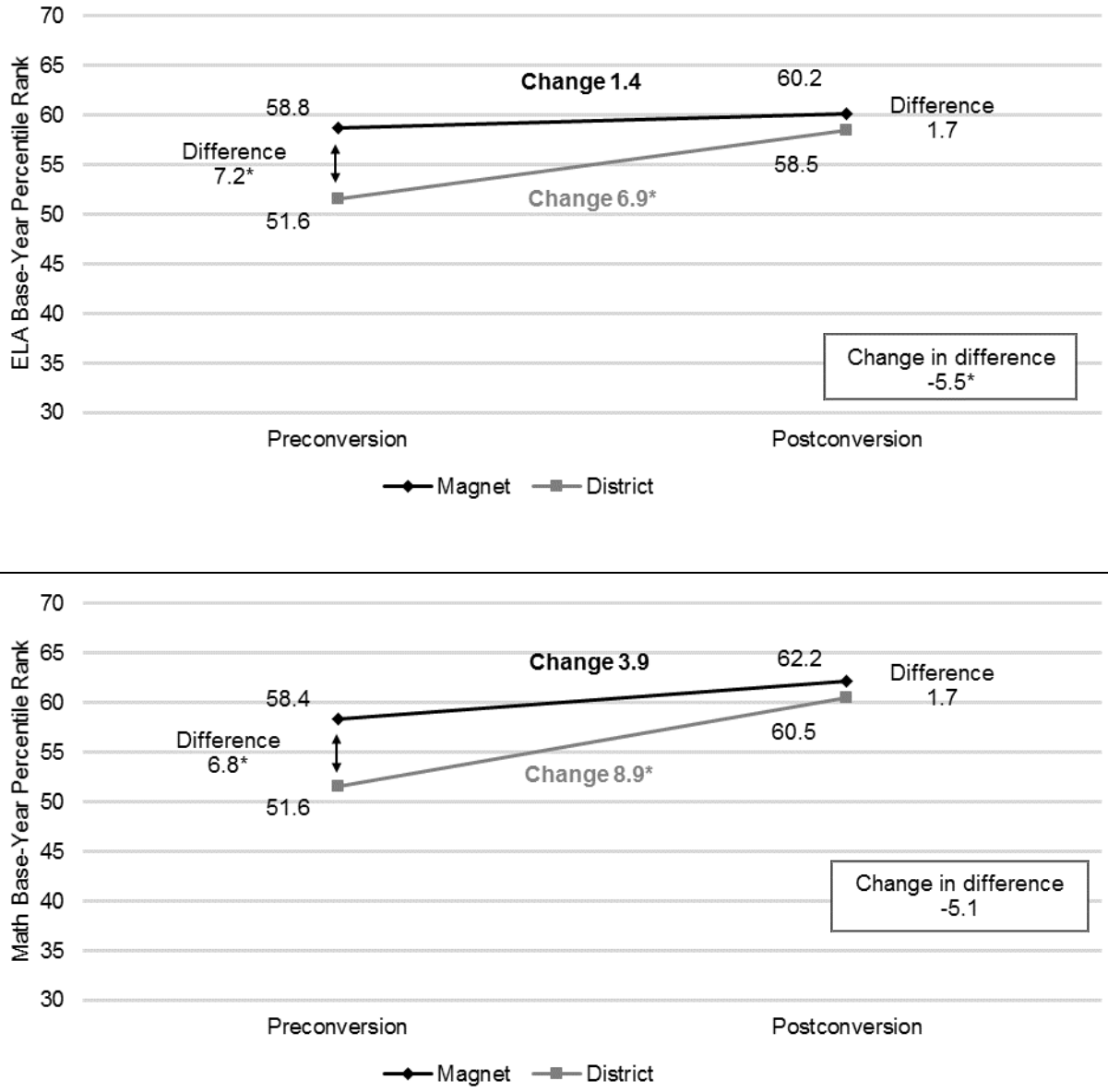


EXHIBIT READS: The average ELA achievement in the magnet schools did not significantly change (increase of 1.4 percentile points) from before (pre-) conversion (58.8th percentile) to after (post-) conversion (60.2nd percentile). The average ELA achievement in their districts increased significantly, by 6.9 percentile points from preconversion (51.6th percentile) to postconversion (58.5th percentile). Therefore, the districts increased 5.5 percentile points more than the magnet schools (a 1.4 percentile point increase in the magnet schools compared to a 6.9 percentile point increase in their districts)—a statistically significant change.

NOTE: *N* = four schools in three districts. Differences were calculated using unrounded numbers and may not equal differences calculated from numbers shown on the figure.

SOURCE: District administrative data.

Figure 10. The Role of Magnet Conversion in the Concentration of Racial/Ethnic Minority Students in Traditional Magnet Schools (Average Across Schools)

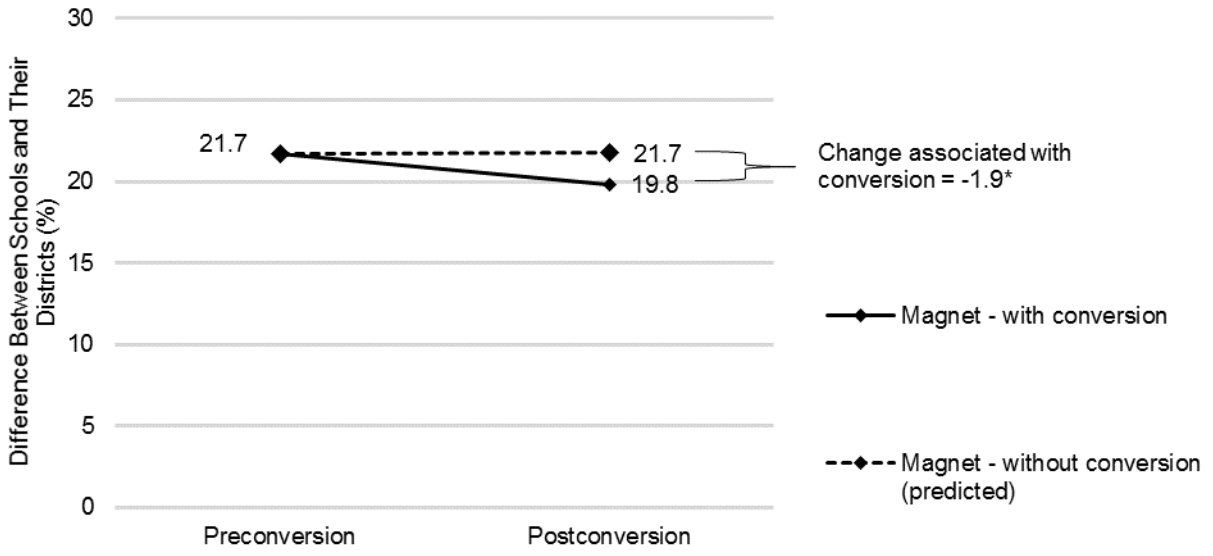


EXHIBIT READS: Before (pre-) conversion, the average size (absolute value) of the difference between the proportion of minority students served by the magnet schools and their districts was 21.7 percentage points. Based on neighborhood schools that did not convert, if the magnet schools had not converted, the size of the predicted difference after (post-) conversion would also be 21.7 percentage points. Postconversion, the actual size of the difference between the magnet schools and their districts was 19.8 percentage points, or 1.9 percentage points less than predicted, a statistically significant difference associated with conversion. This indicates that the magnet conversion could be a factor in bringing the proportion of minority students in magnet schools 1.9 percentage points closer to their districts. Statistical testing was not conducted on the preconversion-to-postconversion changes in this figure; only the primary outcome, the difference between the predicted and actual magnet outcome, was tested.

SOURCE: District administrative data.

Figure 11. The Role of Magnet Conversion in the Concentration of Economically Disadvantaged Students in Traditional Magnet Schools (Average Across Schools)

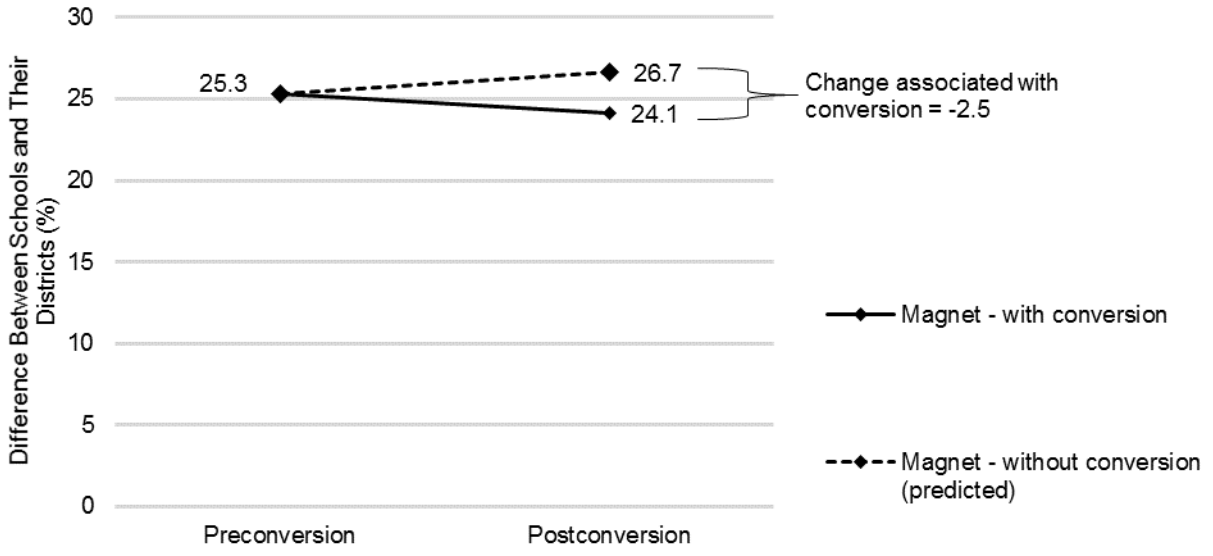


EXHIBIT READS: Before (pre-conversion), the average size (absolute value) of the difference between the proportion of disadvantaged students served by the magnet schools and their districts was 25.3 percentage points. Based on neighborhood schools that did not convert, if the magnet schools had not converted, the size of the predicted difference after (post-) conversion would be 26.7 percentage points. Instead of increasing, the average size of the difference decreased after conversion (1.2 percentage points), bringing them 2.5 percentage points closer to their districts than would be predicted (an actual average difference of 24.1 percentage points between the magnet schools instead of the 26.7 percentage points predicted). While the magnet schools were 2.5 percentage points closer to their districts postconversion than predicted, this difference is not statistically different from zero and, thus, the conversion is not likely a factor in bringing the proportion of disadvantaged students in magnet schools closer to their districts. Statistical testing was not conducted on the preconversion to postconversion changes in this figure; only the primary outcome, the difference between the predicted and actual magnet outcome, was tested.

NOTE: Differences were calculated using unrounded numbers and may not equal differences calculated from numbers shown on the figure.

SOURCE: District administrative data.

Figure 12. The Role of Magnet Conversion in ELA Achievement for Neighborhood Students in Traditional Magnet Schools (Average Across Schools)

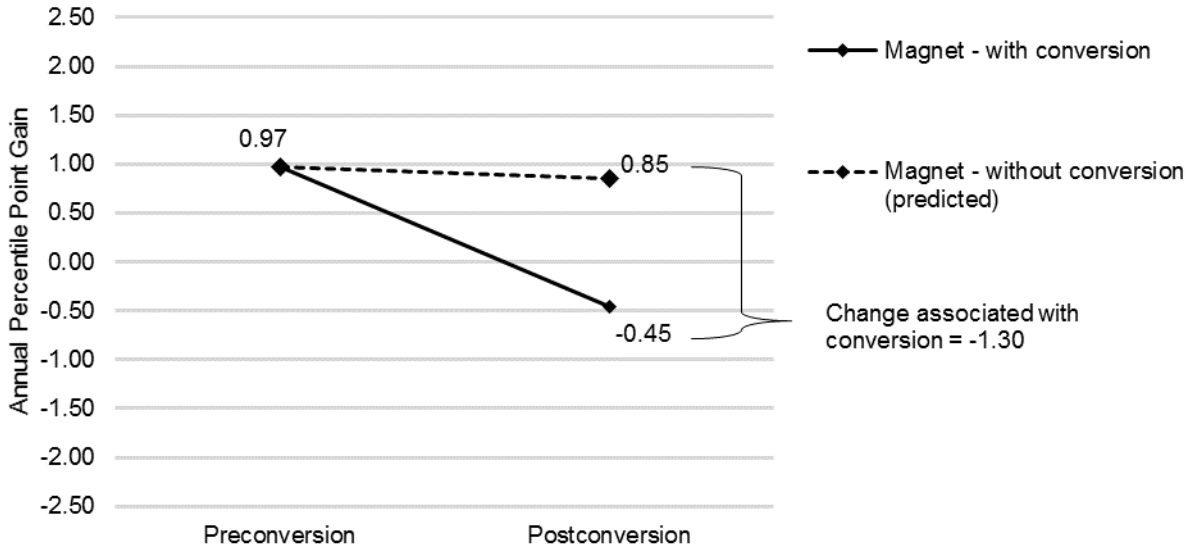


EXHIBIT READS: The average neighborhood student annual percentile point gain in ELA achievement in magnet schools before (pre-) conversion was 0.97 percentile points. Based on similar students in neighborhood schools that did not convert, the average annual percentile point gain for neighborhood students in the magnet schools would be predicted to be 0.85 percentile points after (post-) conversion if the magnet schools had not converted (a 0.12 percentile point decrease from before conversion). The average neighborhood student annual percentile point gain in ELA achievement in the magnet schools after (post-) conversion was -0.45 percentile points (a 1.42 percentile points decrease from before conversion). Thus, the annual percentile point gain for neighborhood students in magnet schools was 1.30 percentile points less than would be predicted had the schools not converted. The change associated with conversion (-1.30) is not statistically different from zero and, thus, there is insufficient evidence to conclude that conversion is a factor in changes to the achievement gains of neighborhood students. Statistical testing was not conducted on the preconversion to postconversion changes in this figure; only the primary outcome, the difference between the predicted and actual magnet outcome, was tested. This Exhibit Reads statement is only intended to walk the reader through the exhibit.

SOURCE: District administrative data.

Figure 13. The Role of Magnet Conversion in Mathematics Achievement for Neighborhood Students in Traditional Magnet Schools (Average Across Schools)

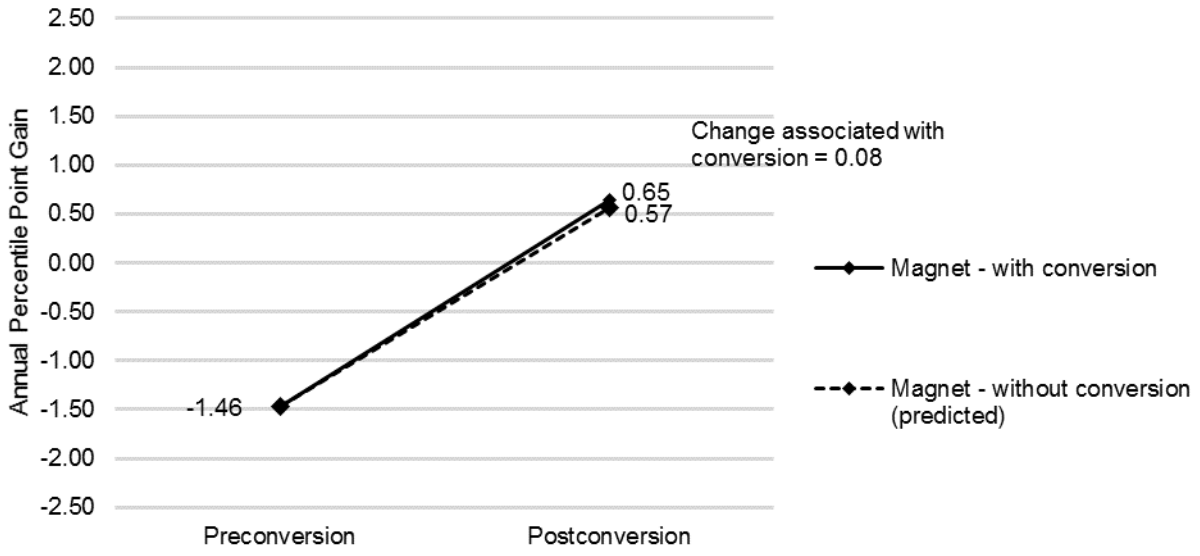


EXHIBIT READS: The average neighborhood student annual percentile point gain in mathematics achievement in magnet schools before (pre-) conversion was -1.46 percentile points. Based on similar students in other neighborhood schools, the average annual percentile point gain for neighborhood students in the magnet schools would be predicted to be 0.57 percentile points after (post-) conversion (a 2.03 percentile point increase from before conversion). The average neighborhood student annual percentile point gain in mathematics achievement in the magnet schools after (post-) conversion was 0.65 percentile points (a 2.08 percentile point increase from before conversion). Thus, the annual percentile point gain for neighborhood students in magnet schools was 0.08 percentile points more than would be predicted had the schools not converted. The change associated with conversion (0.08) is not statistically different from zero and, thus, there is insufficient evidence to conclude that conversion is a factor in changes to the achievement gains of neighborhood students. Statistical testing was not conducted on the preconversion to postconversion changes in this figure; only the primary outcome, the difference between the predicted and actual magnet outcome, was tested. This Exhibit Reads statement is only intended to walk the reader through the exhibit.

SOURCE: District administrative data.

Figure 14. The Role of Magnet Conversion in the Concentration of Students From Minority Racial/Ethnic Backgrounds in Destination Magnet Schools (Average Across Schools)

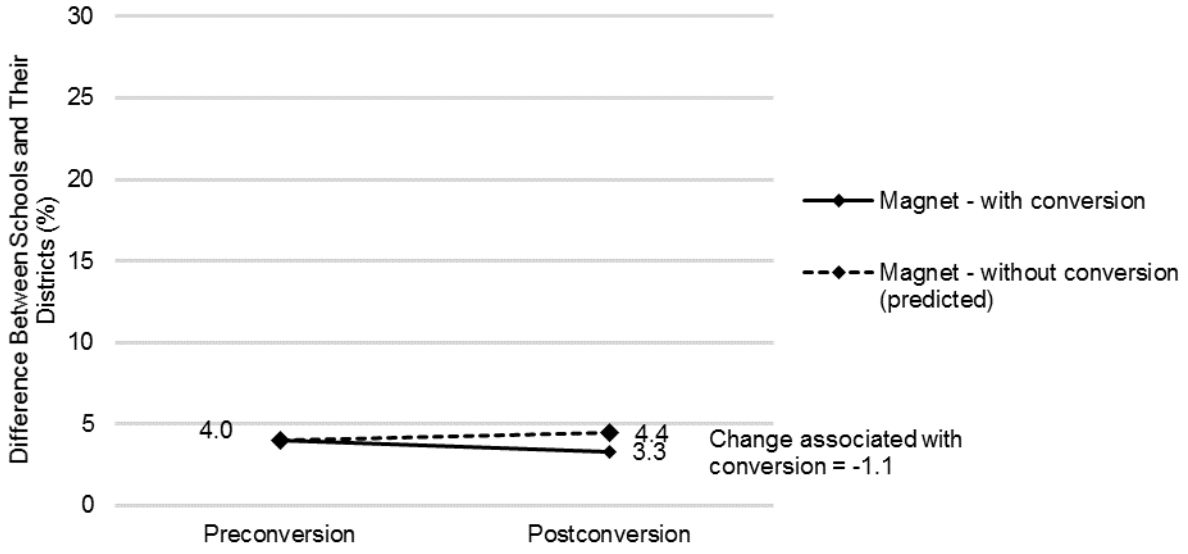


EXHIBIT READS: Before (pre-) conversion, the average size (absolute value) of the difference between the proportion of minority students served by the magnet schools and their districts was 4.0 percentage points. Based on neighborhood schools that did not convert, the average size of the difference between magnet schools and their districts would be predicted to increase to 4.4 percentage points after (post-) conversion had the magnet schools not converted. Instead of an increase, the magnet schools experienced a decrease after conversion (0.7 percentage points), bringing them 1.1 percentage points closer to their districts than would be predicted (a 3.3 percentage point average difference between the magnet schools and their districts instead of 4.4). While the magnet schools were 1.1 percentage points closer to their districts post-conversion than predicted, this difference is not statistically different from zero and, thus, the conversion is not likely a factor in bringing the proportion of minority students in magnet schools closer to their districts. Statistical testing was not conducted on the preconversion to postconversion changes in this figure; only the primary outcome, the difference between the predicted and actual magnet outcome, was tested.

SOURCE: District administrative data.

Figure 15. The Role of Magnet Conversion in the Concentration of Economically Disadvantaged Students in Destination Magnet Schools (Average Across Schools)

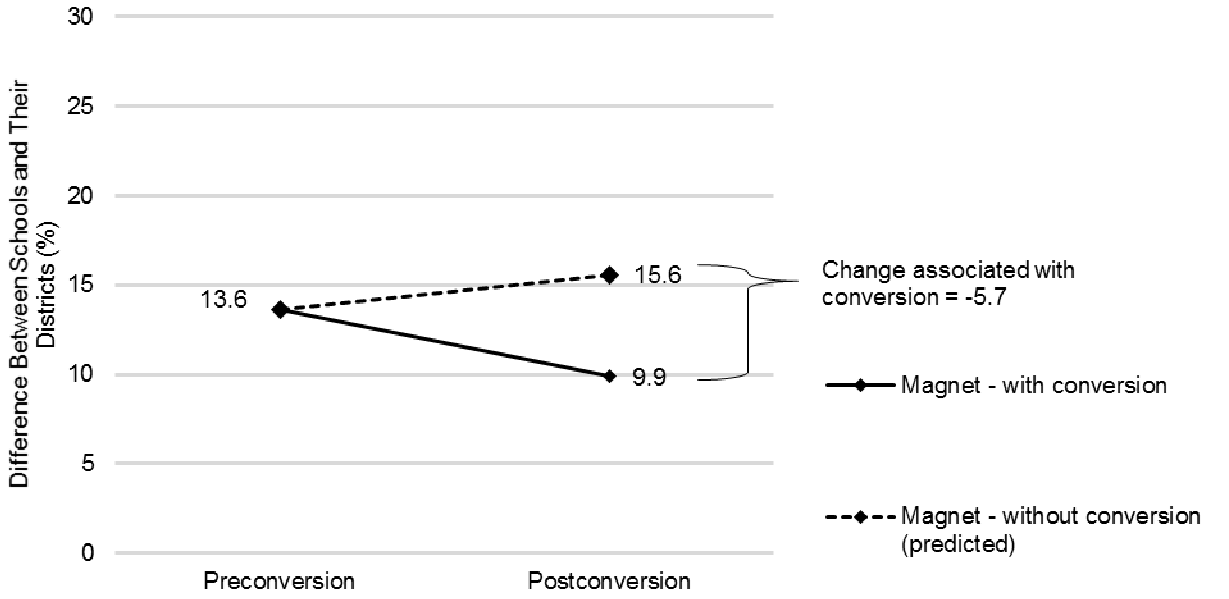


EXHIBIT READS: Before (pre-) conversion, the average size (absolute value) of the difference between the proportion of disadvantaged students served by magnet schools and their districts was 13.6 percent. Based on neighborhood schools that did not convert, the average size of the difference after (post-) conversion would be predicted to increase to 15.6 percentage points had the magnet schools not converted. Instead of an increase, the magnet schools experienced a decrease after conversion (3.7 percentage points), bringing them 5.7 percentage points closer to their districts than would be predicted (a 9.9 percentage point average difference between the magnet schools and their districts instead of 15.6). While the magnet schools were 5.7 percentage points closer to their districts post-conversion than predicted, this difference is not statistically different from zero and, thus, the conversion is not likely a factor in bringing the proportion of disadvantaged students in magnet schools closer to their districts. Statistical testing was not conducted on the preconversion to postconversion changes in this figure; only the primary outcome, the difference between the predicted and actual magnet outcome, was tested.

SOURCE: District administrative data.